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| EXAMINER |
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BHAT, NINA

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| ART UNIT | PAPER NUMBER |
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1764

DATE MAILED: 07/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/099,771

Applicant(s)

REDMOND, SCOTT D.

Examiner

N. Bhat

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34-64 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 34-64 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/9/06
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's amendments and arguments have been fully and carefully considered.

Applicant has cancelled the claims 1-33 which renders mostly all of the rejections made in the previous non-final action moot in particular the rejections made under 35 U.S.C. 112, first paragraph. Action on the merits of claims 34-64 follows:

2. Claims 42 and 57 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. In claims 34 and 35 applicant claims a system the system includes a hydrogen fuel cassette, a hydrogen recovery unit, a telemetry device, a device of the hydrogen recovery unit to receive the information communicated by the telemetry device and a network connection. In claim 42 and 57 applicant recites "...wherein the cassette is approved for delivery by the United State Postal Services". This does not further limit the system as claimed.

3. With respect to claims 42 and 57 these claims are improper for examination and unenforceable claims. How is the US Patent Office supposed to regulate what can be delivered by the US Postal Service. Applicant has already implied by claims 42 and 57, that the US Postal Service has approved the fuel cassette for delivery by United States Postal, is the mailed fuel cassette would be prior art and applicant's admission that the fuel cassette is known to one having ordinary skill in the art. When was the fuel cassette mailed? Or, approved for mailing? Before or after applicant has filed for the US Patent? If the fuel cassette is approved for US Postal Service, how would the examiner or the USPTO know whether the fuel cassette can be mailed overseas would this be deserving of another Patent if applicant claims that the that be deserving of another Patent? The USPTO has no jurisdiction over the US Postal System. If the

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Postal System approves a parcel to be shipped through commerce, that is in the US Postal System's domain not the US Patent and Trademark Office. This type of claim drafting regarding the hydrogen storage cassette delivery through the US Postal Service was rejected to in the previous office action. Applicant has disregarded the examiner's rejection and objections and technically the applicant's response to the office action could be held non-responsive. The Examiner hopes this was an inadvertent oversight on the part of applicant and again, applicant is strongly urged to cancel Claims 42 and 57 in their entirety in the next office action.

4. Claims 42, 45-46, 49 and 50, 57, 60, 61, 63 and 65 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This claim is indefinite and unclear for reasons, which have been delineated, in the previous paragraph. In claims 45-46, the claims are awkwardly couched. In order to obviate the rejection, applicant is suggested to draft the claim as follows " A system of claim 35, wherein the hydrogen fuel cassette further comprises a seam of predetermined length, the seam providing access to the hydrogen storage material. Similarly in claim 46, applicant is suggested to recite that the fuel cassette includes a hydrogen storage material as well as a fluid material operatively connected to the hydrogen storage material as well as a drain, which is operatively connected to the hydrogen fluid cassette. In claims 49-50 it is unclear what applicant means by a system wherein the hydrogen storage system includes a slicing system to slice the hydrogen storage material that has been removed from the hydrogen fuel cassette. In claim 49 and 63 applicant recites the hydrogen storage material is sliced. Does applicant mean that the nanotube or hydride or fullerene, hydride slurry is sliced? It appears from Claim 50 and 65, the nanotube or hydride or fullerene is sliced when it is spent. How does applicant slice a slurry? If applicant is unclear about any of the 112, 2nd

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Paragraph rejections discussed above, the examiner welcomes communication with applicant's representative in order to advance prosecution.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 34-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gamo et al. USP 5,976,725 in combination with Skala USP 6,394,207.

Gamo et al. teach a hydrogen generating device which provides a hydrogen occlusion alloy container (2) which is a compact container which containing hydrogen occlusion alloy of storing hydrogen of fuel, there are further included connections attached to the hydrogen an occlusion alloy container, piping connected to pressure regulators and other connections and piping to a fuel cell. There are heat exchange means for heating the hydrogen occlusion alloy so that the hydrogen releases from the hydrogen occlusion alloy.[Note Column 4, lines 21-56] The hydrogen generator and fuel cell system and controller as described by Gamo et al. fully anticipates applicants claims.

However, Gamo et al. does not teach that the controller used for controlling the hydrogen flow rate is connected to a network.

Gamo et al. teaches a system which comprises a fuel cell of solid polymer type, a rectangular sealed container for accommodating hydrogen occlusion alloy for occluding hydrogen to be supplied to the fuel cell, connection between the hydrogen containing container and the fuel cell, valving for providing hydrogen passage and controls for controlling the flow rate of hydrogen gas and/or hydrogen pressure control controlling the pressure. The hydrogen generating system of Gamo et al. can be used as a power supply for office automation equipment, portable electric appliances. [Note Column 1, lines 1-10, column 2, lines 8-20 and Column 4, lines 21-57] Gamo et al. teach that the amount of hydrogen generated can be controlled, the flow rate of hydrogen as well as pressure of hydrogen by conventionally known and recognized controllers.

Skala teaches using a hydrogen-generating device, which is flow communication with a fuel cell and associated controllers and fuel processor in a fuel cell powered electric vehicle. Skala teach providing a system, which includes thermal management of a vehicle, which includes a hydrogen generator, fuel cell and control system. The system includes a hydrogen generating apparatus wherein the hydrogen is used as fuel to power the vehicle. Skala teaches controlling the heat transfer within the vehicle using temperature sensors or other temperature indicators with the fuel cell, which is coupled to a controller, which receives temperature and related signals from the sensors and indicators, and other heat exchange equipment associated with the vehicle to provide thermal management of vehicle conditions. The sensors used in Skala are functionally equivalent to applicant's "electromechanics".

It would have been obvious from the teachings of Gamo et al. and of Skala to provide a system which includes hydrogen fuel cassette, and a hydrogen recovery unit and a central

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controller to receive information from the hydrogen fuel cassette and includes network connection to interface with the controller because Gamo et al. teaches substantially providing a hydrogen fuel cassette including a hydrogen containing core fuel material, a hydrogen recovery unit and a controller for controlling the amount of hydrogen being generated and used in the fuel cell. To interface the controller with a computer which is subsequently connected to a network would have been obvious to one having ordinary skill in the art, the connectivity to the network is mostly due to the connections made to the computer rather than to the controller which is connected to the hydrogen generating system and most computers are capable of being networked and interfaced with other computers if desired and to include network connectivity so that the device can be operated remotely or monitored remotely or on a networked system would have been obvious to one having ordinary skill in the art the time the invention was made and to include network capability once a system is connected to a computer would have been an obvious design choice to one having ordinary skill in the art at the time the invention was made.

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 34-64 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 31-52 of copending Application No. 0/099,274. Although the conflicting claims are not identical, they are not patentably distinct from each other because both inventions claim a system comprising a hydrogen fuel cassette including a hydrogen containing core material, a hydrogen recovery unit to receive the fuel cassette to recover hydrogen from the core fuel material and to provide the hydrogen base fuel as output. The difference between the instant invention and that of the '274 application is the addition of the central controller to receive information for one or more hydrogen fuel cassette. To eliminate the controller and its intended function would have been obvious to one having ordinary skill in the art the time the invention was made because both the claims of the instant invention and that of the '274 application are drafted with comprising language which is open language which opens the claims to eliminating an element and its function or adding an element and its function and to eliminate the controller and its function of receiving information would have been obvious to one having ordinary skill in the art at the time the invention was made.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

10. Claims 34-64 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-27, 33-34 and 51 of copending Application No. 10/241,125. Although the conflicting claims are not identical, they are not patentably distinct from each other because both invention claim a cassette and hydrogen storing material contained within the cassette, the hydrogen storing material comprises a solid material, and there is also provided means to recover the hydrogen from the cassette. The instant application is drafted with broader claims however, the claims do overlap in scope with that of the '125. In

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some of the '125 claims applicant includes a hydrogen permeable material wherein the hydrogen permeable glass material is permeable to hydrogen at higher than ambient temperatures. The instant claims and that of the '125 claims are drafted with comprising language or open language which opens the claims up to the include hydrogen permeable materials such as claimed in the '125 application to add an element and its intended function would have been obvious to one having ordinary skill in the art.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

11. Claims 34-64 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 12-18 and 24-38 of 10/310,498 U.S. Patent Pending. Although the conflicting claims are not identical, they are not patentably distinct from each other because as set forth below the '498 application now allowed recites:

12. (Currently Amended) A system comprising:
a hydrogen fuel container ;
a material within the container to store hydrogen; and
a probe fully contained within the container to interrogate the material without physical attachment to an external system.

15. (Currently Amended) The system of claim 12, [wherein the probe is contained within the container] wherein the container further comprises one or more microelectronic devices coupled with the probe, the one or more microelectronic devices perform one or more of processing interrogation information and storing interrogation information.

17. (Currently Amended) The system of claim 12, [and wherein the probe is attached to a hydrogen recovery system that contains the hydrogen fuel container] wherein the container comprises a cassette.

The system, which has been allowed, is broader than what has been claimed in the instant application but the system includes a hydrogen fuel container a material within the container to store hydrogen and a probe fully contained within the container to interrogate the material without physical attachment to an external system. The system of the '498 application reads on the instant system the only difference being that in the instant invention the container is a fuel cassette and the electromechanics. It would have been obvious to one having ordinary skill in the art at the time the invention was made that the container of the '498 application can read on a fuel cassette which is a particular type of containment. The electromechanics will broadly read on a probe or a sensor and to use specifically the probe or sensor as a particular type of electro mechanic device renders applicant's invention as a whole obvious to one having ordinary skill in the art.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to N. Bhat whose telephone number is 571-272-1397. The examiner can normally be reached on Monday-Friday, 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


N. Bhat
Primary Examiner
Art Unit 1764